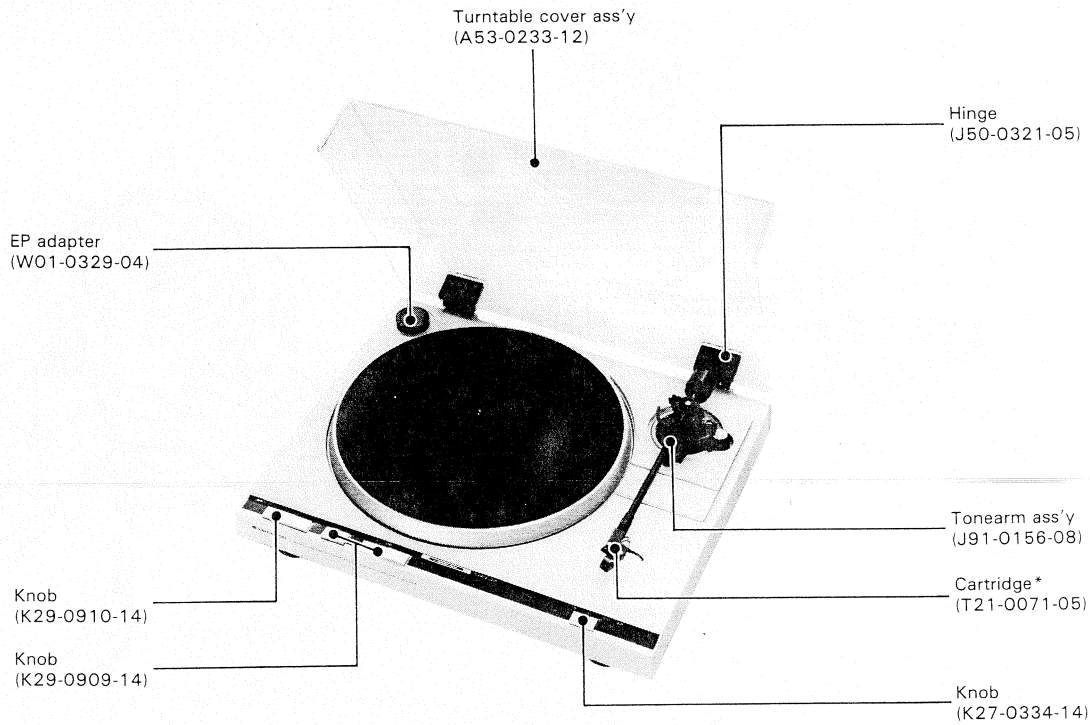
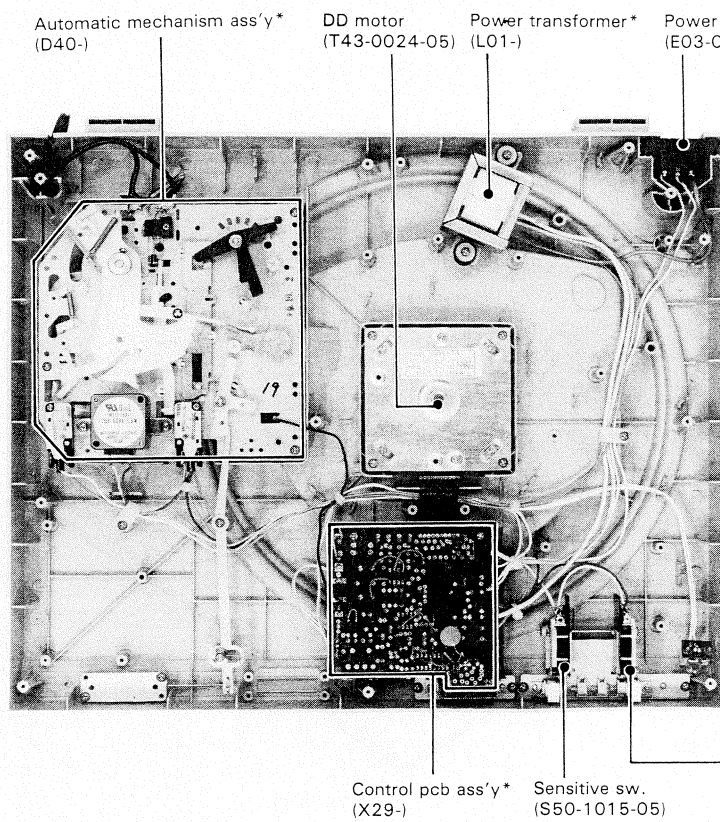
SERVICE MANUAL

KENWOOD®

KD-50F

QUARTZ PLL DIRECT DRIVE FULL AUTOMATIC TURNTABLE



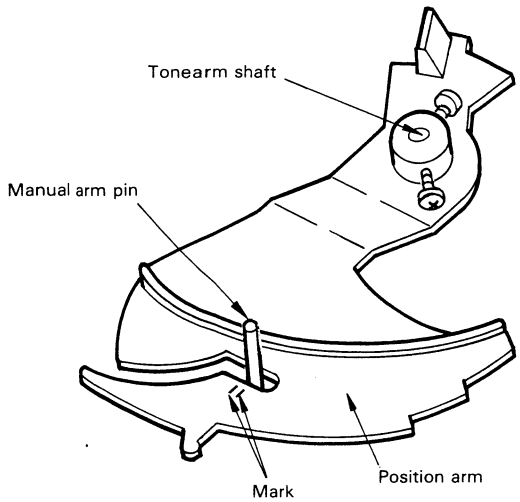


*Refer to Parts List (P16)

AUTOMATIC MECHANISM ASS'Y

How to mount position arm

Fix the position arm so that the manual arm pin by screws is within the mark on the position arm.

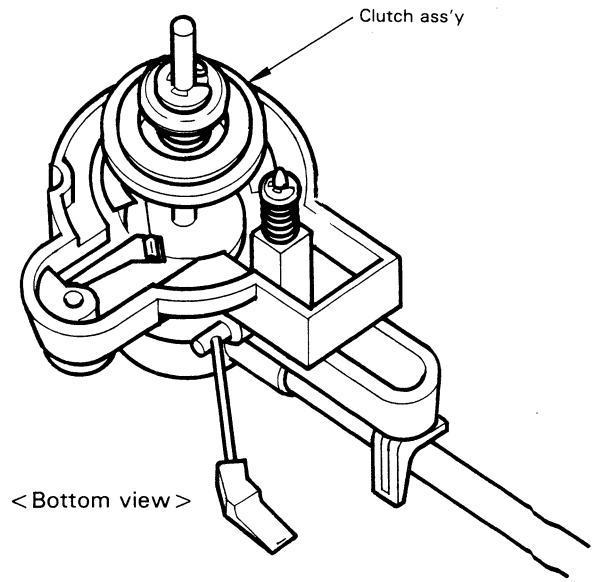


<Bottom view>

How to check clutch ass'y operation

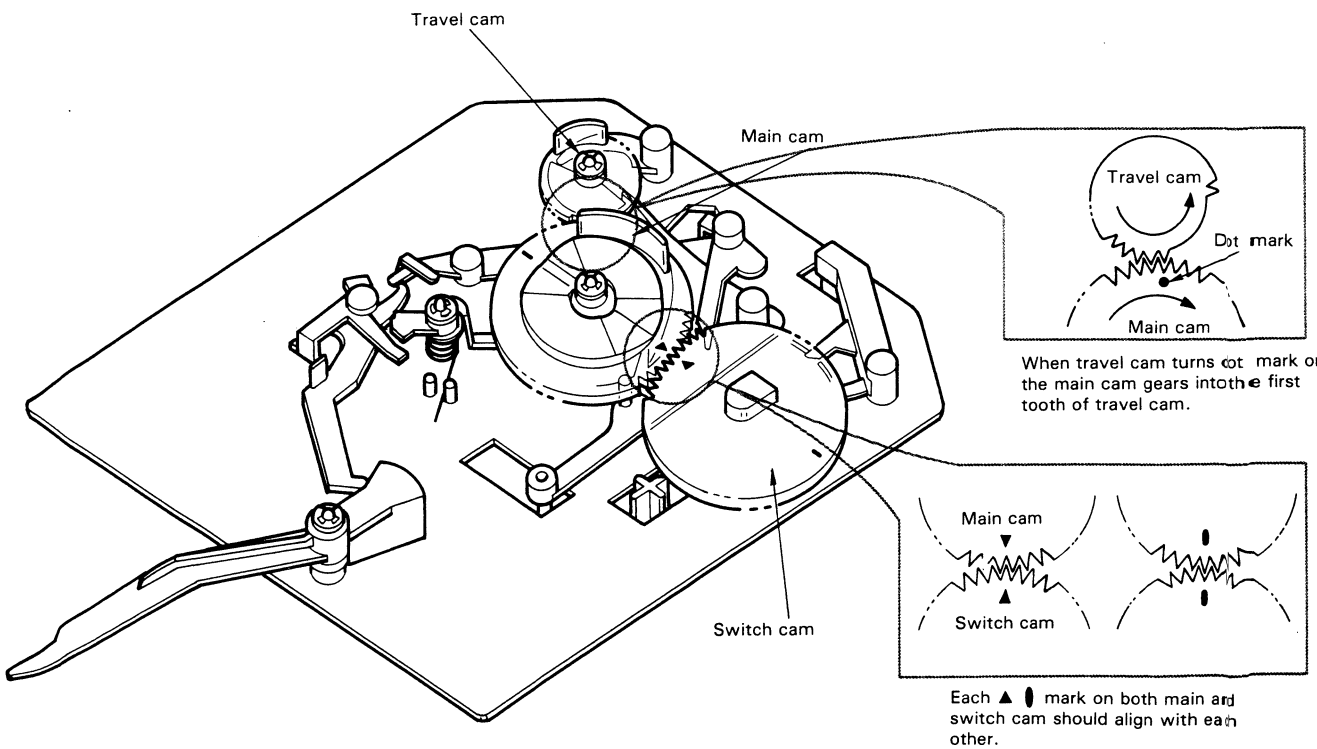
Before check remove position arm. Confirm clutch ass'y function from botton side.

1 Hold tonearm to tonearm rest.
2 Press PLAY/CUT button (AUTO-IN)
3 Confirm clutch ass'y turns from bottom side.
4 Also press PLAY/CUT button again (AUTO-RETURN)



<Bottom view>

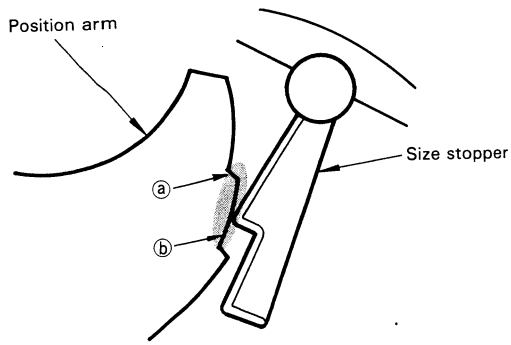
How to mount travel cam, main cam and switch cam.


Travel cam
Main cam
Switch cam
Travel cam
Dot mark
Main cam
When travel cam turns dot mark on the main cam gears into the first tooth of travel cam.
Main cam
Switch cam
Each ▲ ▮ mark on both main and switch cam should align with each other.

ADJUSTMENT

How to adjust size stopper

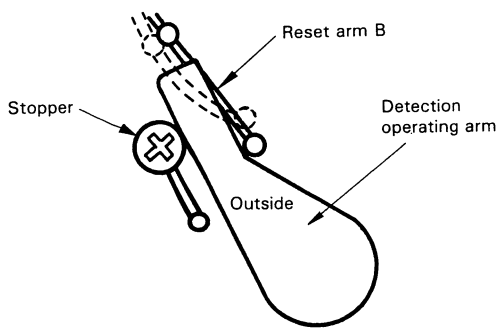
Confirm:
in AUTO-IN mode, size stopper contact with the black parts of position arm. If not, adjust the stopper of size stopper or slider. Refer to next page.



<Bottom view>

How to check reset arm B

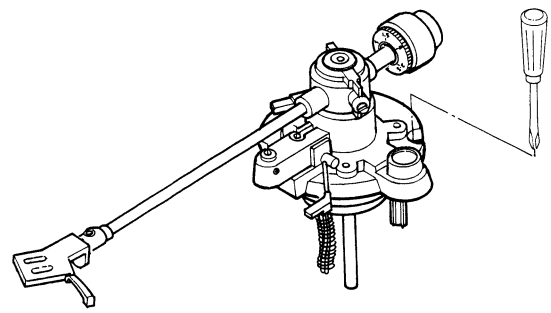
Confirm:
from STOP to PLAY Mode, detecting operating arm is forced down by reset arm B.



<Bottom view>

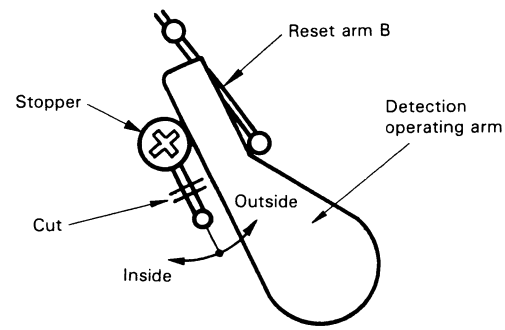
How to adjust the auto-in position

Adjust the auto-in in the 30 cm record auto-in mode. Put the turntable in the 30 cm record auto-in mode. Play back the test record (P-3027, Parts No. T99-0204-05). Adjust the auto-in adjusting screw through the tonearm base access hole so that the stylus drops at count 20±15 on the test record.



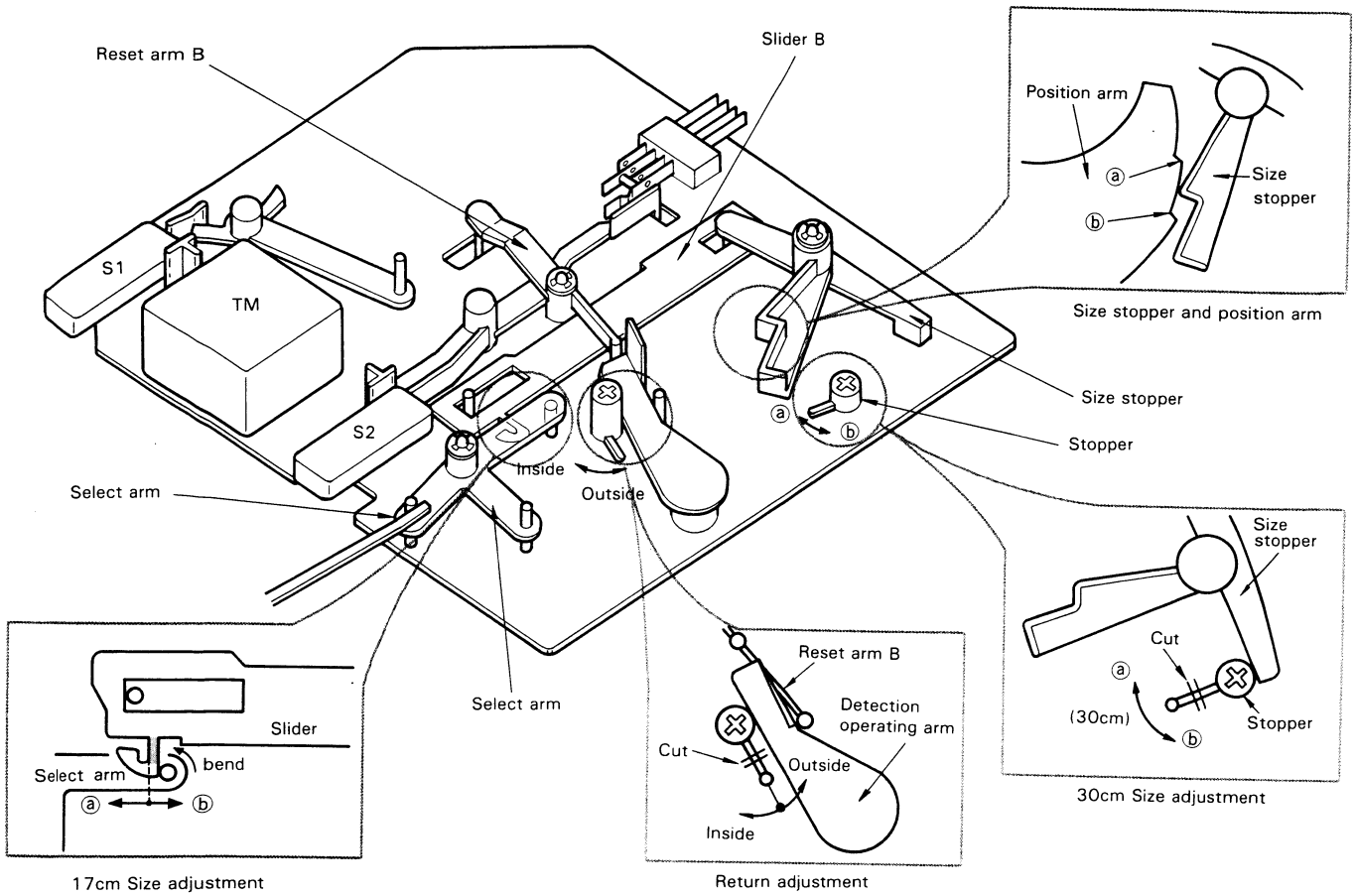
How to adjust the auto-return position

Use the test record (PRC—30041, Parts No. T99-0211-05) to adjust the auto-return position. Adjust the stopper for detection operating arm so that the auto-return action starts at the 20 count of the test record.



<Bottom view>

ADJUSTMENT

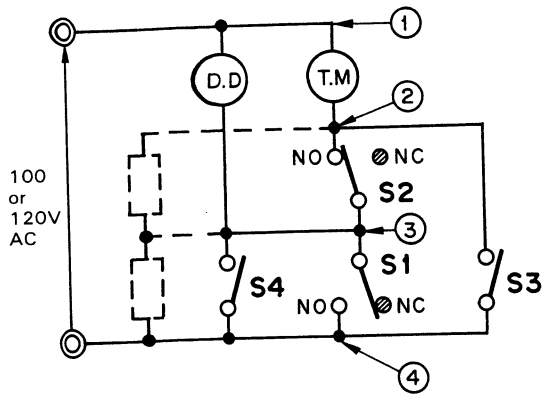


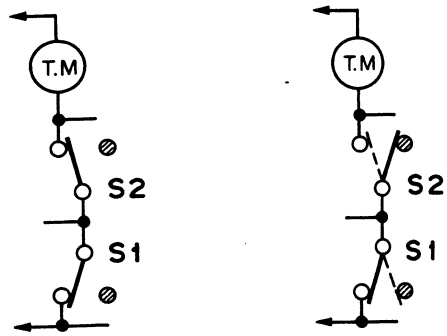
<Adjustment part of automatic mechanism>

CIRCUIT DESCRIPTION

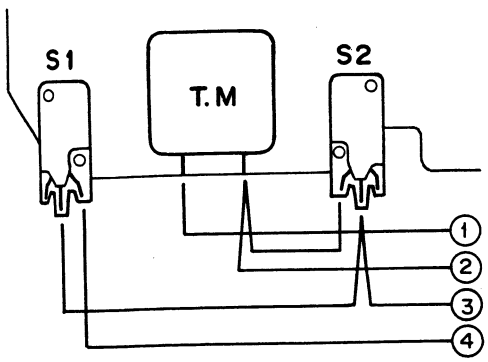
DD and Timing Motor Operation

The following figures illustrate the motor circuit and actual part configuration.





<During mechanism operation> <During PLAY>



<Bottom view>

S_1: Mechanism, rest position timing (K1)
S_2: Mechanism, play position timing (K2)
S_3: PLAY/CUT switch
S_4: REPEAT switch
TM: Timing motor
DD: Turntable motor

In the STOP condition, sensitive switch S_1 is OFF and sensitive switch S_2 is ON.

When the PLAY operation starts, either when the PLAY/CUT button is pressed for auto-in action or when manual operation (See "Mechanism operation") is performed, the timing gear rotates to turn ON S_1.

The S_1 ON condition is self-sustained by the mechanism until play is completed.

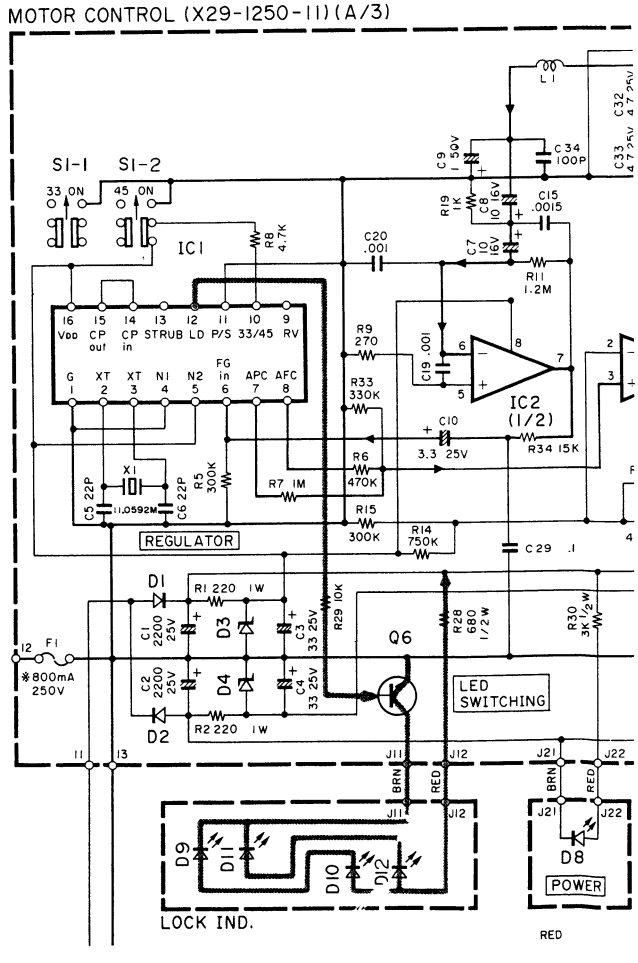
On the other hand, S_2 is ON only when the mechanism is in the Auto-in or Auto-return condition. During this period, S_2 is self-sustained by the mechanism, as is S_1. The self-sustained condition is maintained by the switch cam attached to the timing motor shaft and by switch arms A and B, which turn the sensitive switch ON and OFF.

Lock Indicator

When the rotation speed is steady, the No. 12 terminal of IC_1 is at the H level. This voltage is applied to the base of LED switching transistor Q6. With Q6 ON, the four lock indicator LEDs connected to the Q6 collector will light, indicating steady rotation.

When the power is applied, B+ current flows to light power indicator LED D8. (Refer to troubleshooting.)

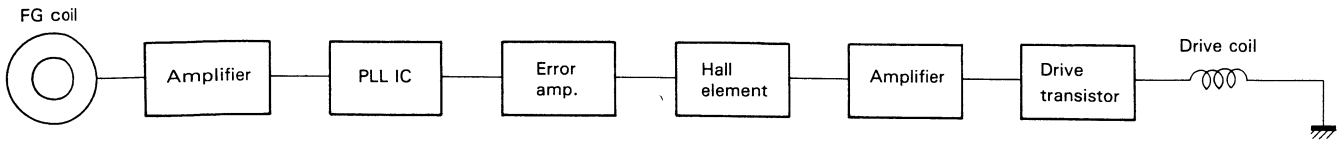
MOTOR CONTROL (X29-1250-11)(A/3)



CIRCUIT DESCRIPTION

Motor Drive Circuit

The following is a block diagram of the KD-50F.



<Block diagram of KD-50F>

As the motor starts rotating, an FG signal produced by the FG coil attached to the motor shaft is amplified and fed to PLL IC, which in turn compares the phase and speed of the FG signal and converts it into a voltage. This voltage is then coupled to the error amplifier, whose output is applied to the Hall element. The voltage produced at the Hall element is amplified before energizing the coil for motor rotation. The stator winding and Hall element are installed to provide clockwise rotation.

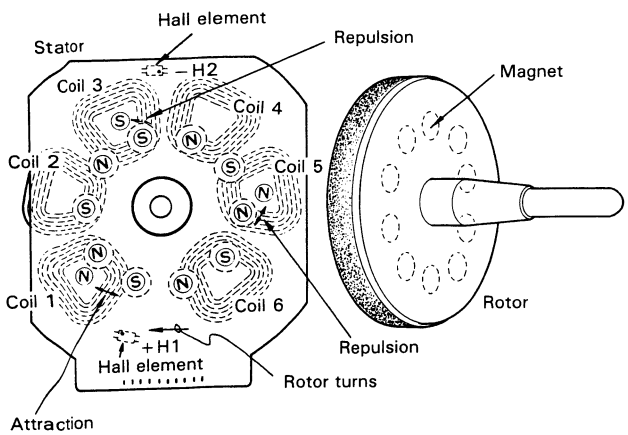
The motor consists of the stator and rotor sections as shown in figure.

The stator has a 2-phase winding and 6 coils. The rotor contains 10 imbedded magnets. Also, 2 Hall elements are used to detect magnet position. The Hall elements and coils are interconnected, changing the direction of the current flowing in the coil corresponding to the magnetic polarity detected by the Hall element.

Suppose that the rotor is superimposed on the stator as shown in figure.

The magnet installed in the rotor cannot change its own polarity, so current is fed to the stator winding to change its polarity and obtain rotational force.

Upon sensing the S pole, Hall element + H_1 produces a voltage which is insufficient to drive the motor, so the voltage is amplified by the OP amplifier to switch the drive transistor and feed current to each drive coil.



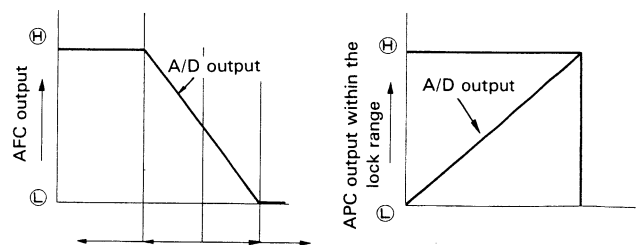
<Figure of rotor and stator>

There are 3 coils in one phase, each spaced at one coil intervals. These coils are wound in the reverse direction of the preceding coil, thereby changing pole orientation.

It can be seen that polarity of coil 1 must be N to produce clockwise rotation. Other coils cause the motor to rotate clockwise in a similar manner by repulsion or attraction.

As the S pole of the rotor passes through coil 1, the polarity of coils 1 is to repulse the rotor's S pole. As the rotor's N pole follows the S pole, the S pole of coil 1 and N pole of the rotor attract each other to cause further clockwise rotation. These successive operations keep the motor rotating in the clockwise direction. If one of the Hall elements is faulty, no fixed direction of rotation results and the platter keeps rotating in the direction which is turned by hand.

Understanding that the motor rotates by magnetic attraction or repulsion, consider how the circuit works in this respect. An FG signal fed to IC_1 by the motor rotation normally produces a voltage at terminal No.s 7 and 8 as shown in the following figure:



Terminal No.s 7 and 8 of IC_1 are designed so that they are at the L level during STOP and at high speeds, and at the H level at low speeds.

Assume that the speed is slow. In this case, a current proportional to the APC and AFC output voltages of IC_1 is fed to the Hall element by the DC amplifier (15 dB) consisting of IC_2 and Q_1.

The variations in the current are proportional to the output voltage of the Hall element.

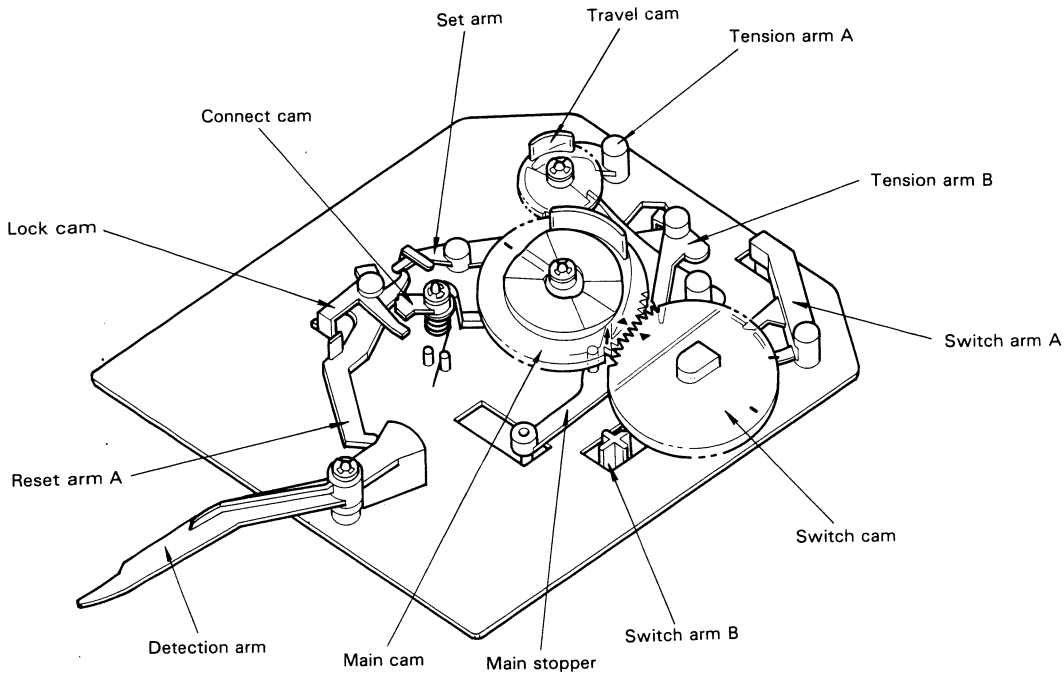
The output of the Hall element is further amplified and fed to the coil switching transistor. At high speeds, on the other hand, the output of the DC amplifier decreases, reducing the voltage generated by the Hall element and lowering its torque.

MECHANISM DESCRIPTION

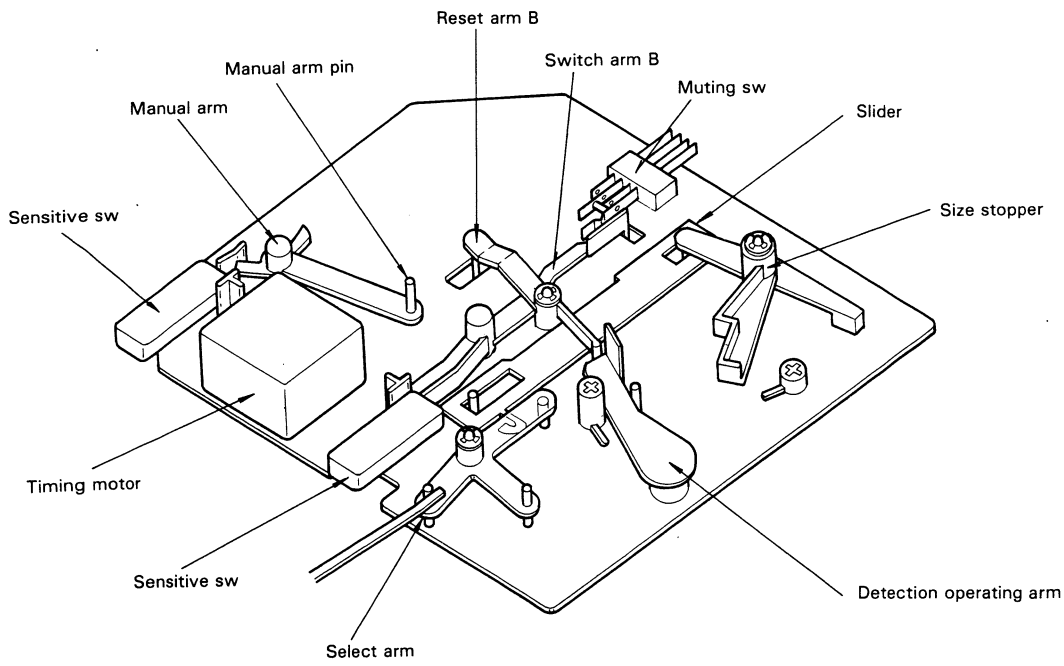
AUTOMATIC OPERATION

AUTO-IN

AUTO-IN operation starts when the PLAY/CUT switch is pressed while the main cam is at stop position and the tonearm on the rest.



<Parts name and location> Top view



<Parts name and location> Bottom view

MECHANISM DESCRIPTION

MANUAL

The tonearm is lifted an swung to the platter manually. The timing motor switch is turned on when the tonearm is moved inwards about 10～15°. Then, after about 5.6 seconds (60 Hz) or 6.7 seconds (50 Hz), the tonearm is automatically lowered.

REPEAT

REPEAT operation is enabled when the REPEAT switch (lock-in type) is ON. The REPEAT switch can be released when the CUT switch is operated.

RETURN

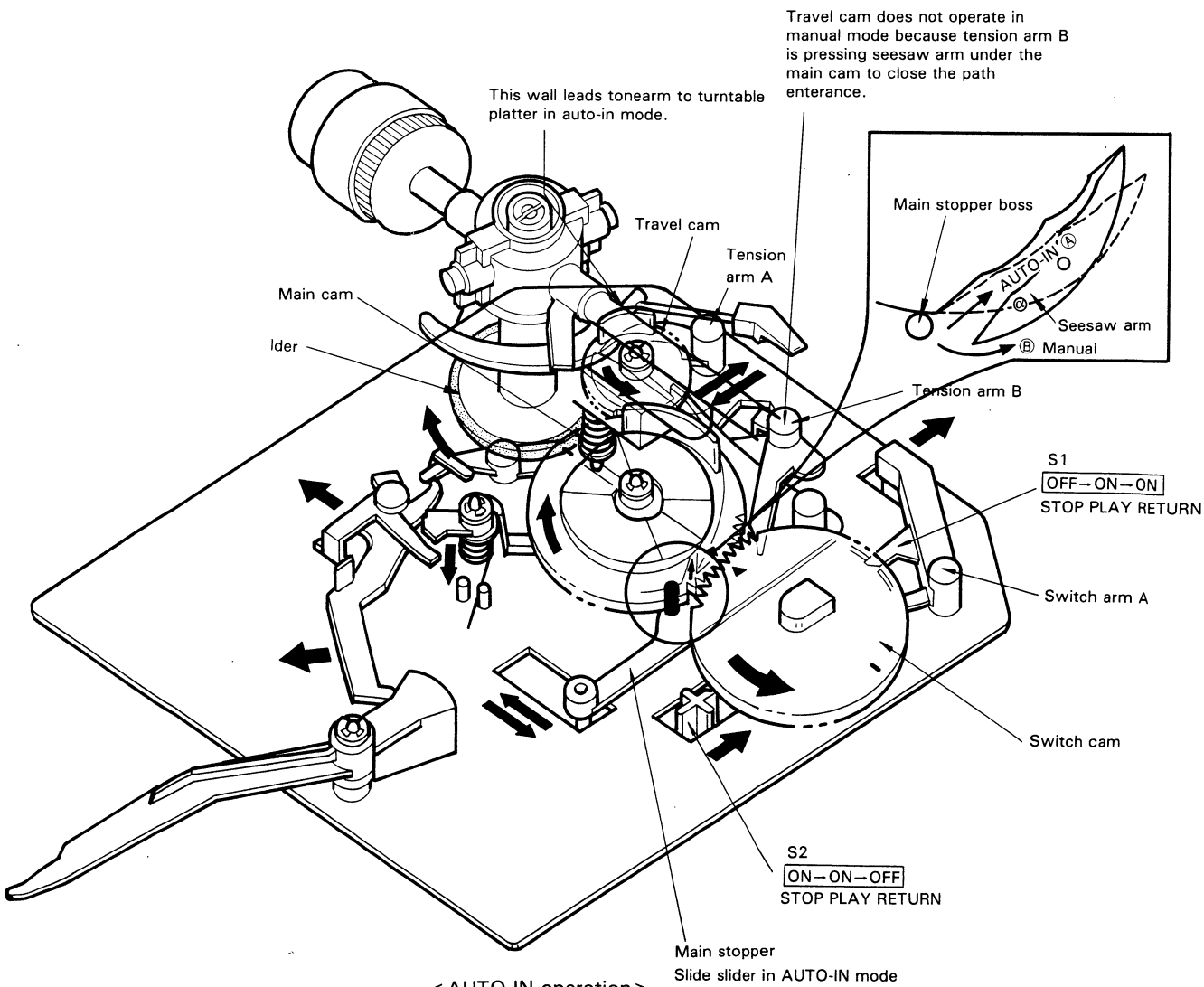
RETURN operation automatically starts when the end of a record is mechanically detected or when the CUT switch is operated. If the tonearm is stopped by hand during the RETURN operation, operation is switched into the MANUAL mode.

Automatic Mechanism Operation

The switch cam rotates counterclockwise one turn for each clockwise revolution of the main cam. One AUTO-IN or RETURN operation cycle is completed by a half turn of the main cam. These cams are driven by the timing motor according to the ON-OFF states of sensitive switches S_1 and S_2. (See "Basic Operation Circuit" on page 5 and the assembly diagram on page 5).

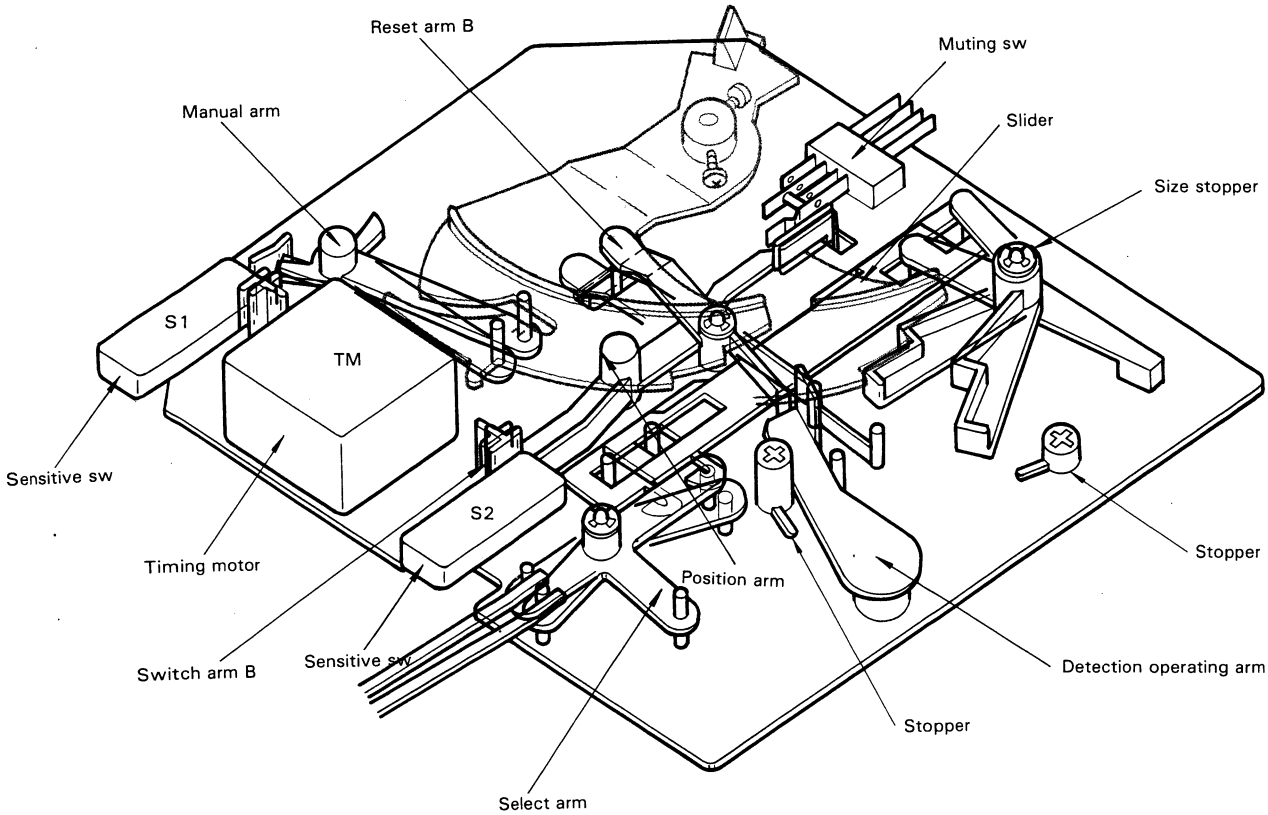
AUTO-IN

When the START/STOP switch is operated, timing motor starts rotating with switch cam. Switch cam pushes down switch arm A to turn sensitive switch S_1 (K_1) ON. Then, timing switch is kept ON mechanically so that the timing motor rotates continously.



<AUTO-IN operation>

MECHANISM DESCRIPTION



<Slider operation>

Main cam rotates along with switch cam. When main cam starts rotating, seesaw arm ⓐ is in the AUTO-IN position indicated by the solid outline in figure. If the tonearm is moved before main cam rotates to a certain position, seesaw arm ⓐ is set in the MANUAL position indicated by the dotted outline in figure by tension arm B. (See "MANUAL START".) The tonearm must be in the rest position when AUTO-IN operation is to be started. Therefore, seesaw arm ⓐ remains in the AUTO-IN position (solid line). The boss (ϕ3) on main stopper, which is coupled with main cam, is then allowed to move as shown by arrow A in figure, so that main stopper rotates clockwise. Travel cam, which has been stopped by tension arm, then moves to intermesh with the gear of main cam.

As travel cam rotates, it pushes the idler of clutch assembly to move the tonearm.

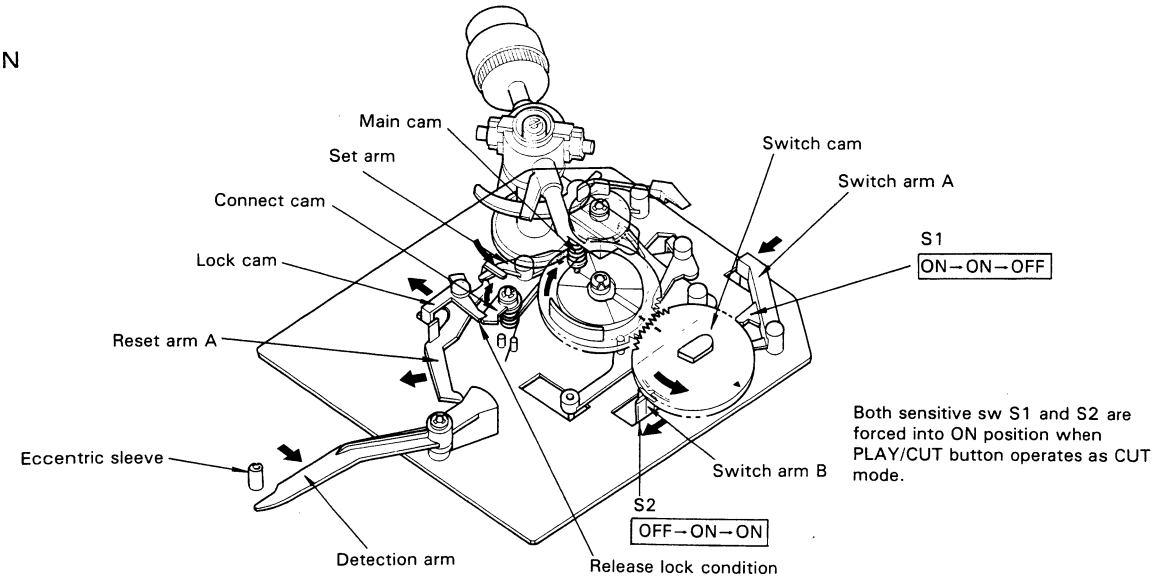
As main stopper rotates, the slider moves. When the record size is set to 17 cm, select arm is not rotated, but when the record size is set to 30 cm, select arm is rotated. The mechanism will not be damaged if the record size is switched while the tonearm is moving, but it is not certain where between the 17 cm and 30 cm positions the tonearm will be lowered. Slider stops at either size position according to the position of select arm. Size stopper is rotated to the selected size position by the movement of the slider. The above operations are completed before the tonearm is shifted. As the tonearm shifts, the position arm is swung until it is stopped by size stopper. Since the idler of clutch assembly is still in contact with travel cam, the clutch assembly slips at the felt part to absorb the rotational force of the travel cam. After the idler moves away from travel cam, size stopper is released. If connect cam is unlocked, the ϕ3 boss on main cam causes it to be returned to the lock position, where it is locked by lock cam.

Then, the boss on main cam pushes set arm to free detection arm, which is pushed against the eccentric sleeve, so that the end of the record can be detected.

After all the above operations have been completed, switch arm B is set to the OFF state and timing motor stops.

MECHANISM DESCRIPTION

AUTO-RETURN



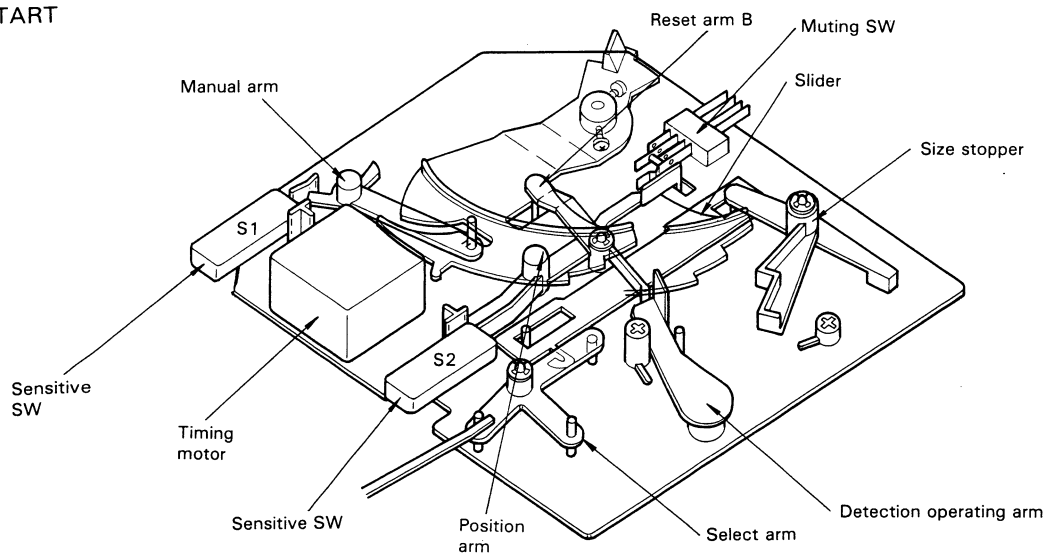
<Auto-return operation>

When the end of the record is reached, the trip pin pushes detection arm. Then, reset arm A and lock cam are moved, so that connect cam is unlocked and rotated clockwise. Connect cam actuates switch arm B to turn muting switch and sensitive switch ON.

Then, main cam rotates and set arm is disconnected from boss of main cam. Reset arm A then returns detection arm until it is stopped by the eccentric sleeve.

As main cam rotates, the tonearm is lifted and returned to the rest position. During this period, main cam stops with seesaw arm ⓐ set in the AUTO-IN position.

MANUAL-START



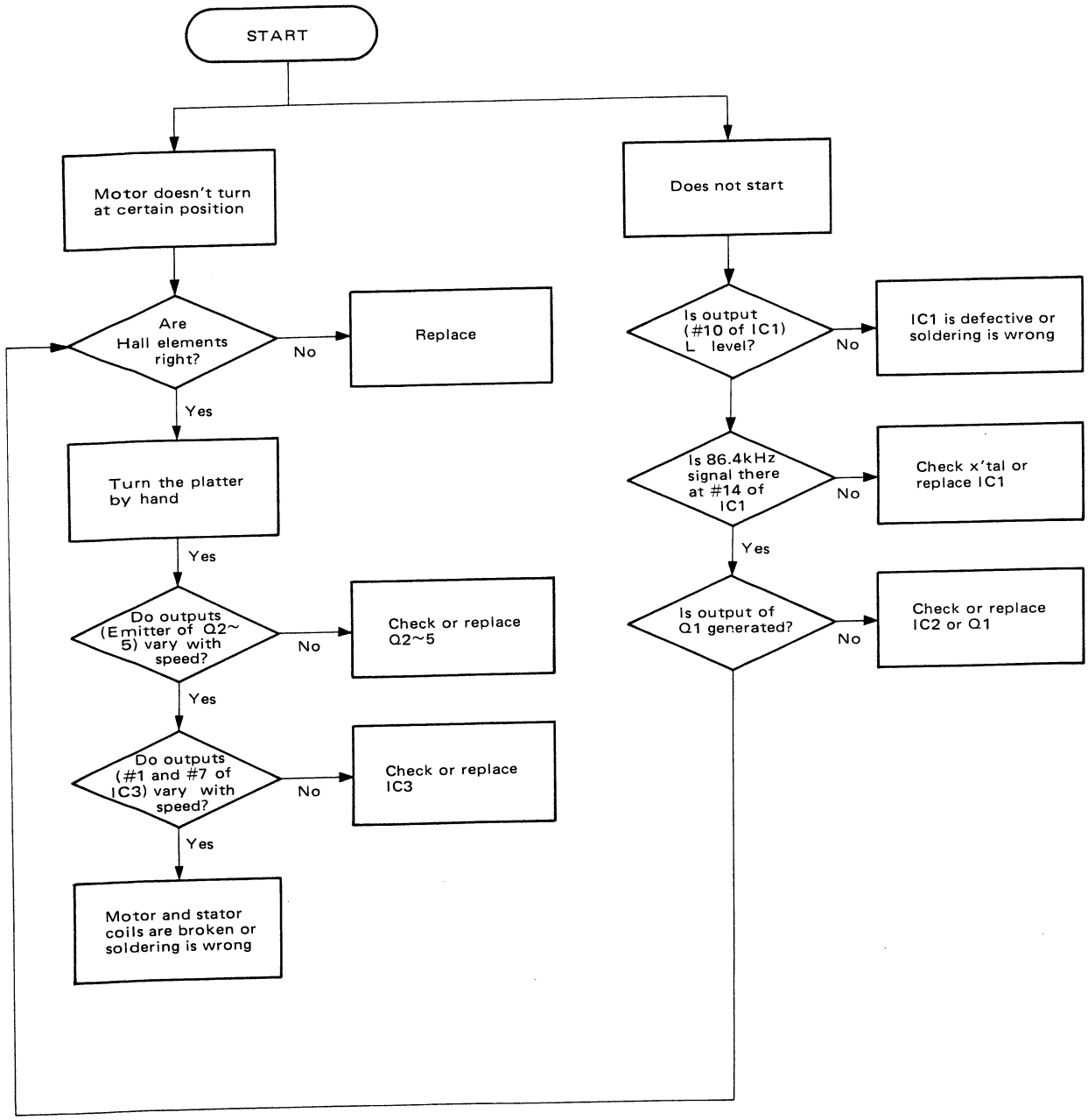
<Manual start operation>

When the tonearm is manually shifted toward the center of the platter, the position arm rotates along with the tonearm shaft. Manual arm is rotated according to the guide groove on the position arm. As manual arm rotates, tension arm B rotates to push seesaw arm ⓐ. Then, manual arm presses switch arm A to turn sensitive switch ON. This causes, main cam to start rotating. As main cam rotates, seesaw arm ⓐ is set to the MANUAL position by tension arm B.

This condition is shown by the dotted line in figure (AUTO-IN). In this case, the boss on main stopper moves as shown by arrow Ⓑ. This means that the main stopper cannot move. Therefore, Travel cam is locked and the tonearm is not automatically shifted. The tonearm will be lowered 5.6 or 6.7 seconds after main cam (or the platter) starts rotating.

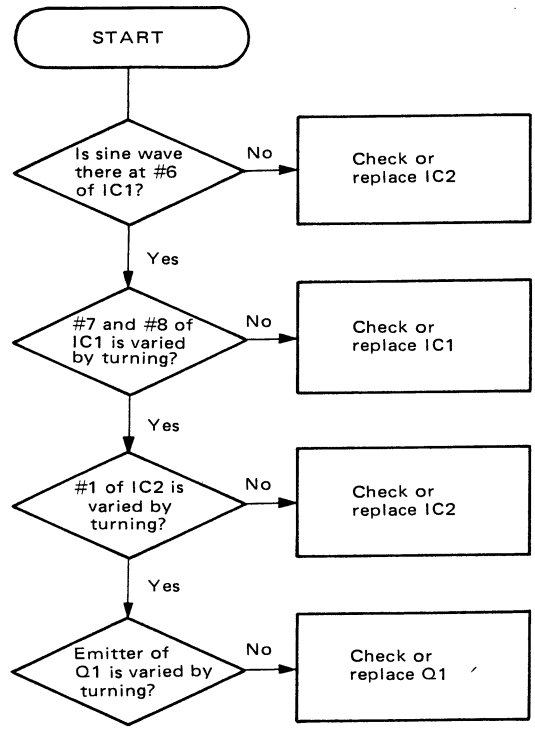
TROUBLESHOOTING

DD motor doesn't turn

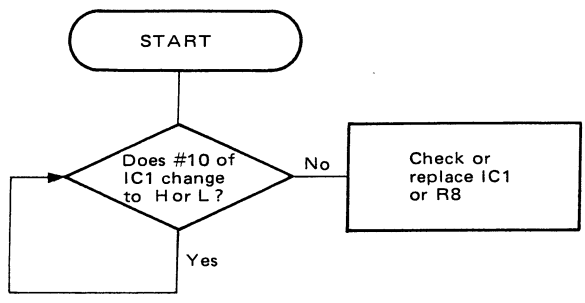


TROUBLESHOOTING

Rotation out of control (High speed turning)

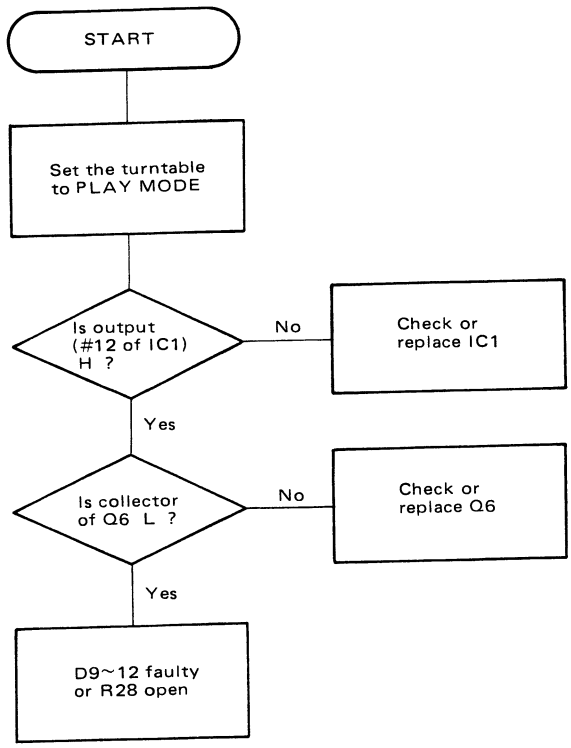


Cannot switch speed 33-1/3 or 45 rpm

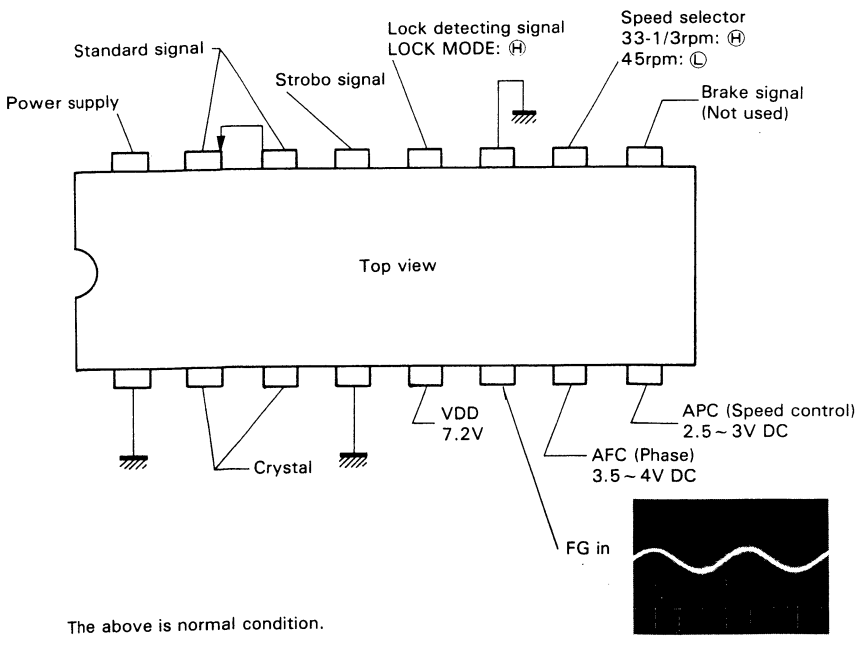


TROUBLESHOOTING

Lock indicator does not light

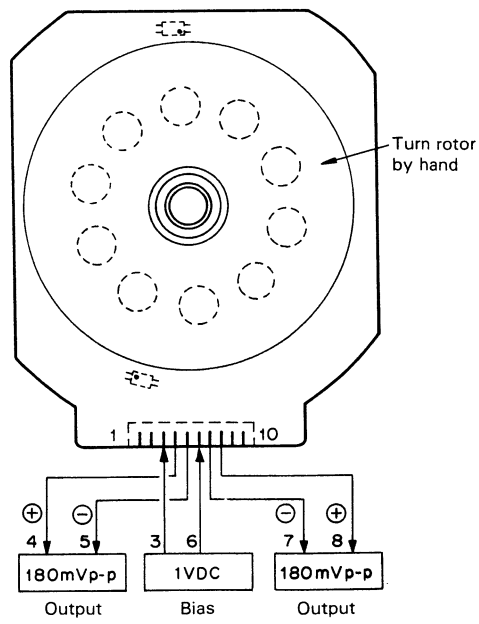


How to check T6083 (TC-9142P)



The above is normal condition.

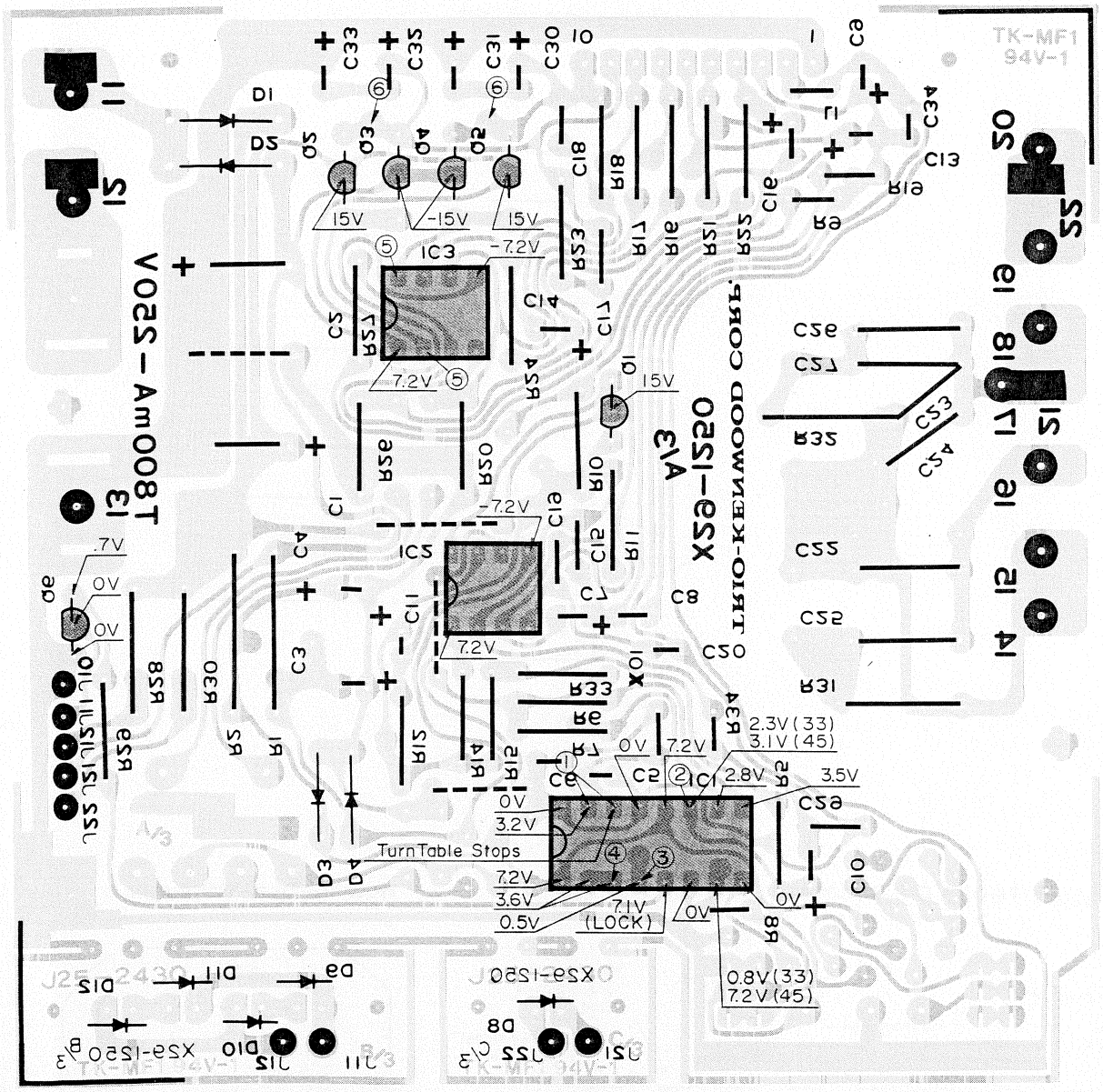
How to check DD motor



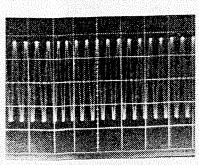
KD-50F

PC BOARD

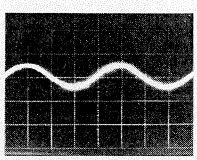
Control (X29-1250-11) Foil side view



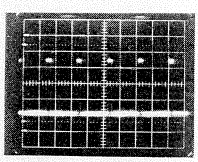
Refer to the schematic diagram for the value of resistors and capacitors.



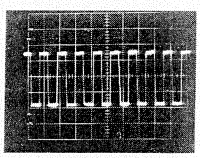
① H: 2μs/div
V: 0.1V/div



② H: 10 ms/div
V: 0.5V/div

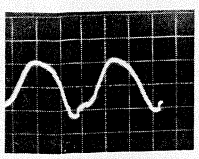


③ H: 5ms/div
V: 2V/div

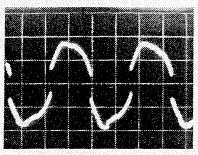


④ H: 10μs/div
V: 2V/div

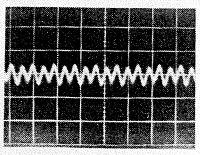
<Note: Use the 10:1 prove>



⑤ H: 0.1s/div AC coupled
V: 0.1V/div



⑥ H: 0.1s/div AC coupled
V: 0.1V/div



⑦ H: 0.1μs/div
V: 10mV/div

KENWOOD®

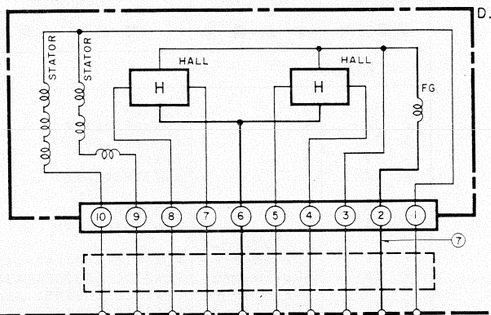
QUARTZ PLL DIRECT DRIVE FULL AUTOMATIC TURNTABLE

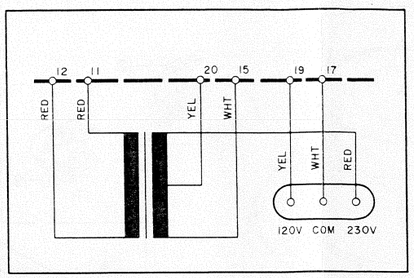
KD-50F

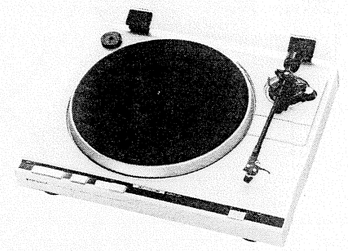
IC1 : T6083 (TC9142P)
IC2,3 : RC4558 P

Q1,6 : 2SC945 (R,O)
Q2,5 : 2SD863 (E,F)
Q3,4 : 2SB764 (E,F)

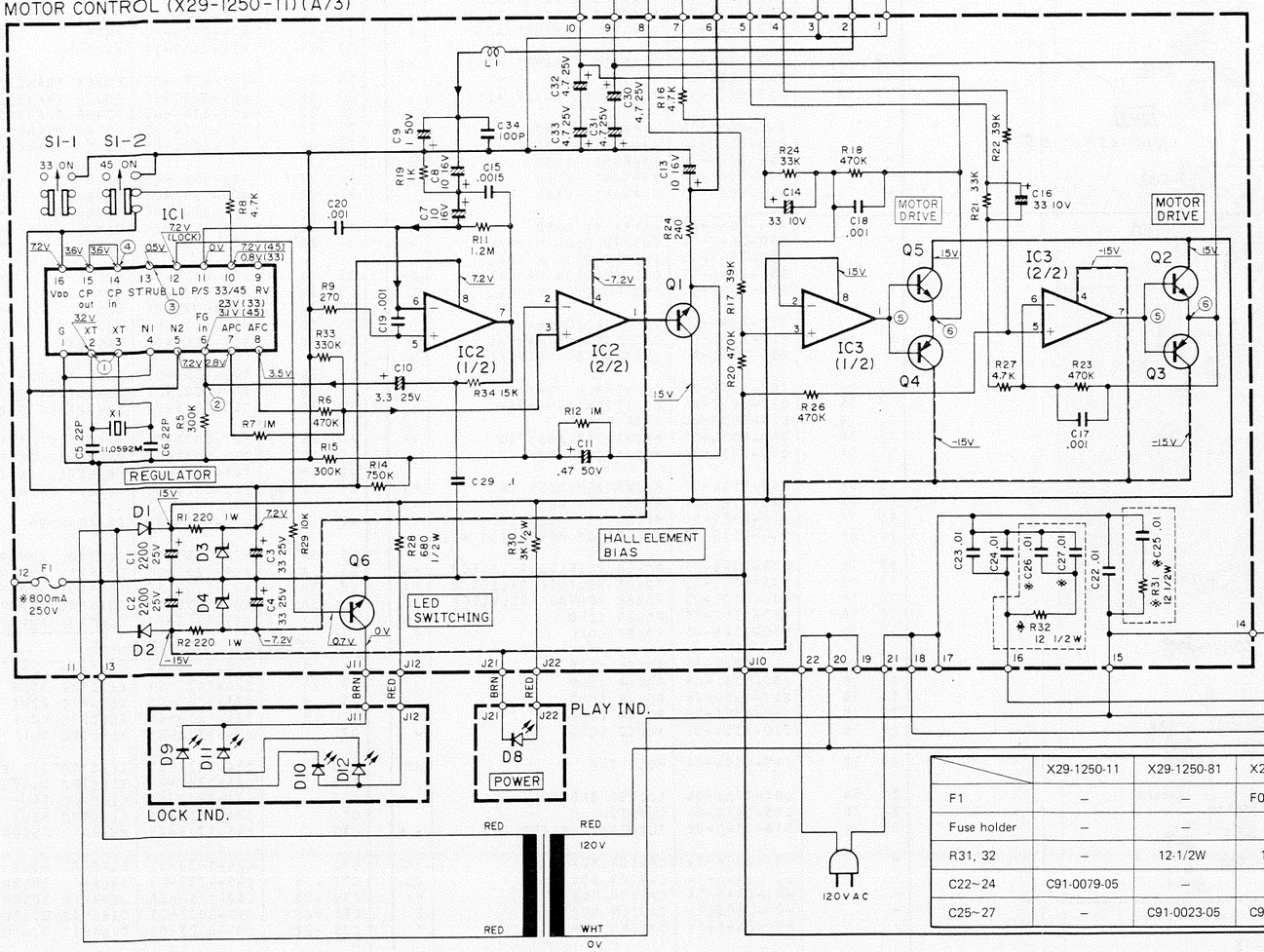
D1,2 : DS135E
D3,4 : GZA6.8μ
D8~12 : SR603D

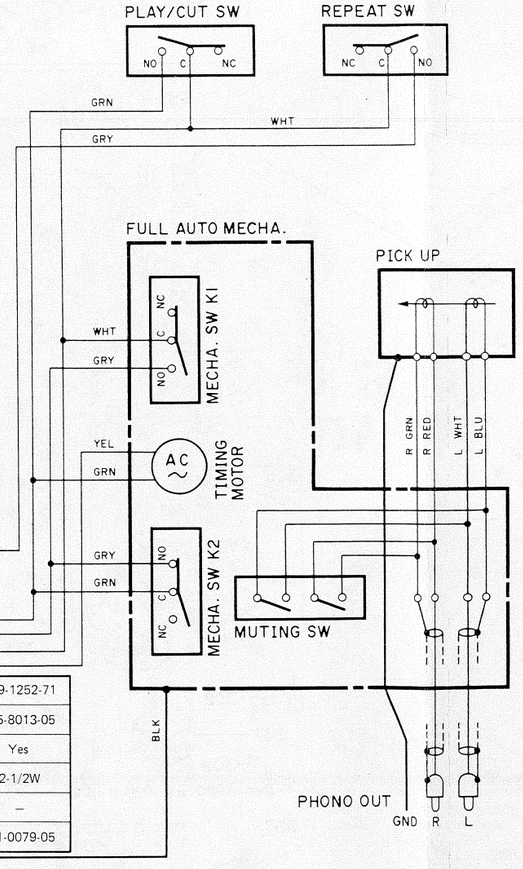






MOTOR CONTROL (X29-1250-11)(A/3)

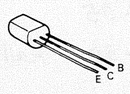




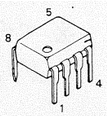
	X29-1250-11	X29-1250-81	X29-1252-71
F1	–	–	F05-8013-05
Fuse holder	–	–	Yes
R31, 32	–	12-1/2W	12-1/2W
C22~24	C91-0079-05	–	–
C25~27	–	C91-0023-05	C91-0079-05

KD-50F(K)

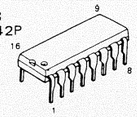
2SB764
2SC945
2SC1740
2SC2320
2SC2634
2SD863



RC4558P
μPC4558C
NJM4558



T6083
TC9142P



DC voltages are measured by a VOM of 25 kΩ/V input impedance.

SPECIFICATIONS

MOTOR AND TURNTABLE
- **Drive System**: Direct-drive system
- **Motor**: Quartz PLL coreless & slotless DC servo motor
- **Turntable Platter**: 31 cm (12-3/16") diameter, Aluminum alloy, die-cast
- **Speeds**: 2 speeds, 33-1/3 and 45 rpm
- **Wow & Flutter**: Less than 0.025% (WRMS)
- **Rumble**: DIN weighted better than −75 dB

TONEARM
- **Type**: Static-balance type, straight tubular arm
- **Effective Arm Length**: 225 mm (8-7/8")
- **Overhang**: 15 mm (9/16")
- **Tracking Error**: +3°24' to −1°
- **Tracking Force Range**: 0 to 3 grams
- **Usable Cartridge Weight**: 4 to 10 grams (with supplied head-shell)

CARTRIDGE (U.S.A., Canada and U.K. models are not equipped with thi V-50)
- **Furnished Cartridge**: V-50 (Moving Magnet type)
- **Frequency Response**: 20~20,000 Hz
- **Output Voltage**: 2.5 mV (1,000 Hz, 5 cm/sec.)
- **Load Impedance**: 47 k ohms
- **Stylus**: 0.7 mil diamond
- **Optimum Tracking Force**: 1.5 +0.3, −0 grams
- **Replacement Stylus**: N-50

MISCELLANEOUS
- **Power Requirements**: AC 120 V, 60 Hz: U.S.A. and Canada Models; AC 120 V/220-240V (Switchable), 50/60 Hz: Other countries
- **Power Consumption**: 10 watts
- **Dimensions**: W 440 mm (17-5/16") H 130 mm (5-1/8") D 373 mm (14-11/16")
- **Weight**: 4.8 kg (10.6 lbs.)
- **Built-in Features**: Fully-automatic tonearm system (Automatic lead-in/Return/Cut/Repeat) Record size selector, Anti-skating device, Oil-damped cueing device, Illuminated quartz lock indicator, 45 rpm adaptor stand, Tracking force direct readout counter, Built-in insulators
- **Supplied Accessory**: 45 rpm adaptor

Note: KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

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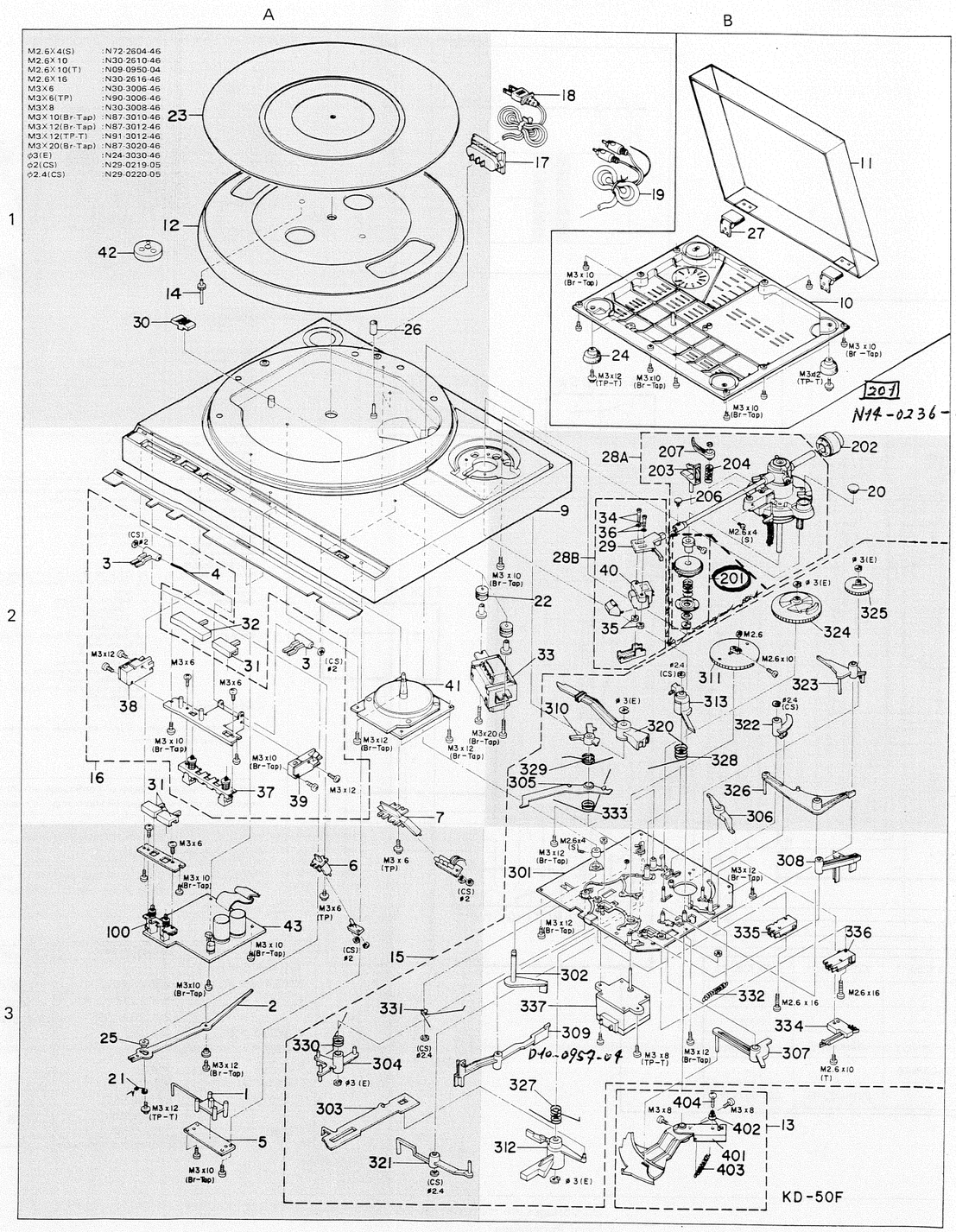
Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

Semiconductor	Substitution
2SB764(E,F)	–
2SC945(Q,R)	2SC2320(E,F)
	2SC1740(Q,R)
	2SC2634(RS
2SD863(E,F)	–
SR603D	–
DS135E	V06B
GZA6.8U	XZ-072
RC4558P	μPC4558C
	NJM4558
T6083	TC9142P

KD-50F KD-50F

EXPLODED VIEW



PARTS LIST

Refer to other manuals on use of Parts List.

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
KD-50F			
1 3A	-	SLIDER	
2 3A	-	CHANGE PLATE	
3 2A	-	SWITCH LEVER	
4 2A	-	SHAFT	
5 3A	-	SWITCH PLATE	
6 3A	-	LED CAP	
7 2A	-	INDICATOR CAP	
9 2B	A02-~~0345-01~~ 0354-21	PLASTIC CABINET ASSY	*U
9 2B	A02-~~0345-01~~	PLASTIC CABINET ASSY	MX
9 2B	A02-~~0345-01~~	PLASTIC CABINET ASSY	E
9 2B	A02-0346-01	PLASTIC CABINET ASSY	*K
9 2B	A02-0346-01	PLASTIC CABINET ASSY	P
9 2B	A02-0347-01	PLASTIC CABINET ASSY	*T
10 1B	A40-0553-01	BOTTOM PLATE	*
11 1B	A53-0233-12	TURNTABLE COVER ASSY	
-	B46-0055-30	WARRANTY CARD	P
-	B46-0060-00	WARRANTY CARD	T
-	B46-0061-30	WARRANTY CARD	K
-	B46-0062-30	WARRANTY CARD	U
-	B46-0063-13	WARRANTY CARD	U
-	B46-0064-20	WARRANTY CARD	X
-	B50-2447-00	INSTRUCTION MANUAL	*K
-	B50-2447-00	INSTRUCTION MANUAL	U
-	B50-2448-00	INSTRUCTION MANUAL	PM
-	B50-2448-00	INSTRUCTION MANUAL	X
-	B50-2449-00	INSTRUCTION MANUAL	E
-	B50-2450-00	INSTRUCTION MANUAL	T
-	B50-2451-00	INSTRUCTION MANUAL	M
12 1A	D02-0038-05	TURNTABLE PLATTER	*
13 3B	D10-0958-04	POSITION ARM ASSY	*
14 1A	D19-0032-04	TRIP PIN	
15 3A	D40-0514-01	MECHANISM ASSY (B)	*K
15 3A	D40-0514-01	MECHANISM ASSY (B)	PU
15 3A	D40-0514-01	MECHANISM ASSY (B)	MX
15 3A	D40-0529-01	MECHANISM ASSY (C)	*E
15 3A	D40-0529-01	MECHANISM ASSY (C)	T
16 2A	D40-0515-03	OPERATION MECHANISM ASS	Y*
17 1B	E03-0105-05	POWER VOLTAGE SELECTOR	*U
17 1B	E03-0105-05	POWER VOLTAGE SELECTOR	MX
17 1B	E03-0105-05	POWER VOLTAGE SELECTOR	ET
18 1B	E30-1305-15	POWER CORD	UM
18 1B	E30-1328-05	POWER CORD	T
18 1B	E30-1329-05	POWER CORD	E
18 1B	E30-1342-05	POWER CORD	X
18 1B	E30-1350-05	POWER CORD	*K
18 1B	E30-1350-05	POWER CORD	P
19 1B	E30-1351-05	AUDIO CORD	*
20 2B	F19-0504-04	HOLE CAP	KP
21 3A	G01-1036-04	COILED SPRING	
22 2B	G13-0414-04	CUSHION	
23 1A	G16-0343-02	TURNTABLE SHEET	*
-	H01-2446-14	CARTON BOX	*K
-	H01-2446-14	CARTON BOX	PU
-	H01-2446-14	CARTON BOX	MX
-	H01-2446-14	CARTON BOX	E
-	H01-2449-14	CARTON BOX	T
-	H10-2290-02	POLYSTYRENE FIXTURE(A)	*
-	H10-2291-03	POLYSTYRENE FIXTURE(B)	*
-	H10-2292-03	POLYSTYRENE FIXTURE(C)	*
-	H12-0384-02	PACKING FIXTURE	
-	H25-0029-04	BAG	
-	H25-0078-04	BAG	
24 1B	J02-0342-04	FOOT	*
25 3A	J31-0431-04	COLLAR	
26 1A	J42-0315-14	SLEEVE	
27 1B	J50-0321-05	HINGE	
28A 2B	J91-0156-08	TONEARM ASSY	*
28B 2B	J92-0066-05	HEAD SHELL ASSY	KT
29 2B	J92-0067-15	HEAD SHELL	
30 1A	K27-0334-14	KNOB(SLIDE)	*
31 2A	K29-0909-14	KNOB x3	*
32 2A	K29-0910-14	KNOB	*
33 2B	L01-6381-05	POWER TRANSFORMER	*K
33 2B	L01-6381-05	POWER TRANSFORMER	P
33 2B	L01-6384-05	POWER TRANSFORMER	UM
33 2B	L01-6384-05	POWER TRANSFORMER	XE
33 2B	L01-6384-05	POWER TRANSFORMER	T
34 2B	N09-0523-08	SCREW (M2,6x12)	PU
34 2B	N09-0523-08	SCREW (M2,6x12)	MX
34 2B	N09-0523-08	SCREW (M2,6x12)	E
34 2B	N09-0850-04	SCREW (M2,6x10)	KT
34 2B	N09-0851-04	SCREW (M2,6x15)	KT
35 2B	N14-0070-09	NUT (M2,6)	PU
35 2B	N14-0070-09	NUT (M2,6)	MX
35 2B	N14-0070-09	NUT (M2,6)	E
35 2B	N14-0412-04	NUT (M2,6)	KT
36 2B	N19-0267-05	WASHER (2,6)	
37 2A	S42-2302-05	PUSH SWITCH(S1)	*
38 2A	S49-2003-05	SENSITIVE SWITCH (K2)	
39 2A	S50-1015-05	SENSITIVE SWITCH (K1)	
40 2B	T21-0071-05	MAGNETIC CARTRIDGE(V-50	*P
40 2B	T21-0071-05	MAGNETIC CARTRIDGE(V-50	UM
40 2B	T21-0071-05	MAGNETIC CARTRIDGE(V-50	XE
41 2A ※	T43-0024-05	DIRECT DRIVE MOTOR	*
42 1A	W01-0329-04	EP ADAPTER	
43 3A	X29-1250-11	CONTROL AMP PCB ASSY	*K
43 3A	X29-1250-11	CONTROL AMP PCB ASSY	P
43 3A	X29-1250-81	CONTROL AMP PCB ASSY	UM
43 3A	X29-1250-81	CONTROL AMP PCB ASSY	X
43 3A	X29-1252-71	CONTROL AMP PCB ASSY	ET
CONTROL (X29-125*-**)			
C1 ,2	C24-1422-81	ELECTRO 2200UF 25WV	
C3 ,4	C24-1433-61	ELECTRO 33UF 25WV	
C5 ,6	C71-1722-05	CERAMIC 22PF J	
C7 ,8	C24-1210-61	ELECTRO 10UF 16WV	
C9	C24-1710-51	ELECTRO 1UF 50WV	
C10	C24-1433-51	ELECTRO 3,3UF 25WV	
C11	C24-1747-41	ELECTRO 0,47UF 50WV	
C13	C24-1210-61	ELECTRO 10UF 16WV	
C14	C24-1033-61	ELECTRO 33UF 10WV	
C15	C45-1715-25	MYLAR 1500PF J	
C16	C24-1033-61	ELECTRO 33UF 10WV	
C17 ,18	C45-1716-25	MYLAR 1000PF J	
C19 ,20	C52-1710-26	CERAMIC 1000PF K	
C25 -27	C91-0023-05	CERAMIC 0,01UF AC250V	UM
C25 -27	C91-0023-05	CERAMIC 0,01UF AC250V	X
C22 -24	C91-0079-05	CERAMIC 0,01UF K	KP
C25 -27	C91-0079-05	CERAMIC 0,01UF K	ET

K: U.S.A. U: PX E: Europe M: Other area
P: Canada X: Australia T: England *: New parts

※ T43-0024-05
V11-7704-30 Hall device (H-300AS)

PARTS LIST

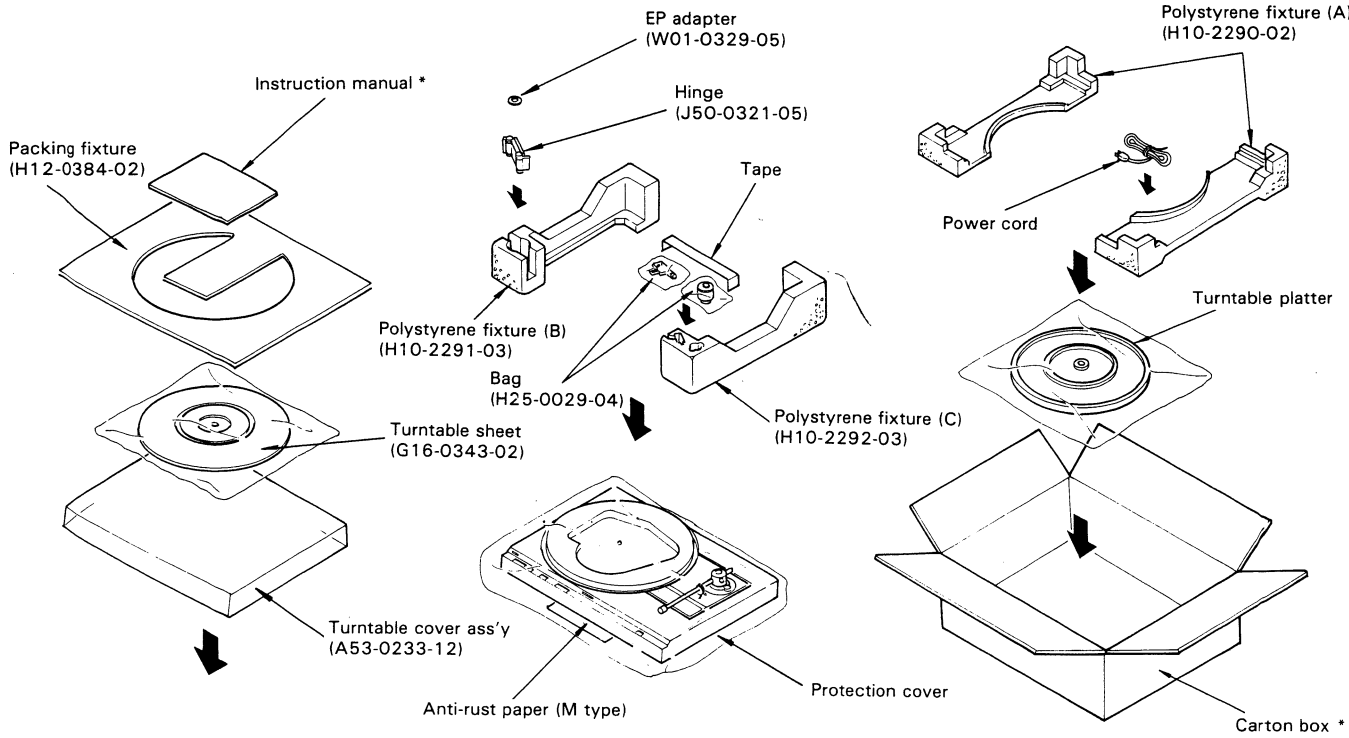
Refer to other manuals on use of Parts List.

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
C29	C91-0121-05	CERAMIC 0.1UF M	
C30 -33	C24-1447-51	ELECTRO 4.7UF 25WV	
C34	C71-1710-15	CERAMIC 100PF J	
-	F05-8013-05	FUSE	ET
-	J13-0055-05	FUSE HOLDER	ET
L1	L40-1811-03	INDUCTOR	*
X1	L77-1102-05	CRYSTAL RESONATOR	*
R1 ,2	R47-1422-15	FL-PROOF RS220 J 3A	
R28	R43-1368-15	FL-PROOF RD680 J 2H	
R30	R43-1330-25	FL-PROOF RD 3K J 2H	
R31 ,32	R40-8312-06	RC 12 K 2H	UM
R31 ,32	R40-8312-06	RC 12 K 2H	XE
R31 ,32	R40-8312-06	RC 12 K 2H	T
S1	S42-2303-05	PUSH SWITCH FIG 100	*
D1 ,2	V11-6101-40	DS135E	*
D3 ,4	V11-6101-50	GZA6.8U	*
D8 -12	V11-1202-41	SR603D	
IC1	V30-0543-10	T6083 (TC-9142P)	*
IC2 ,3	V30-0426-10	RC4558P	
Q1	V03-0945-40	2SC945(Q,R)	
Q2	V04-0863-10	2SD863(E,F)	*
Q3 ,4	V02-0764-10	2SB764(E,F)	*
Q5	V04-0863-10	2SD863(E,F)	*
Q6	V03-0945-40	2SC945(Q,R)	
TONEARM (J91-0156-08)			
201 2B	D14-0236-05	CLUCH ASSY	*
202 2B	D99-0134-08	WEIGHT ASSY	*
203 2B	D39-0159-08	TONEARM REST ASSY	
204 2B	G01-1079-08	LIFTER SET SPRING	*
28A 2B	J91-0156-08	TONEARM ASSY	*
206 2B	N08-0416-08	DRESSED SCREW	
207 2B	~~N14-0425-08~~	LIFTER PLATE NUT N19-2007-08	
CONTROL (X29-125*-)**			
301 3B	-	SUB CHASSIS	
302 2B	-	DETECTING ARM	
303 3A	-	SLIDER	
304 3A	-	SELECT ARM	
305 2B	-	RESET ARM(A)	
306 2B	-	SET ARM	
307 3B	-	MANUAL ARM	
308 3B	-	SWITCH ARM(A)	
309 3B	-D10-0957-04	SWITCH ARM(B)	
310 2B	-	LOCK CAM	
311 2B	-	SWITCH CAM	
312 3B	-	SIZE STOPPER	
313 2B	-	CONNECT CAM	
15 3A	D40-0514-11	MECHANISM ASSY	*K
15 3A	D40-0514-11	MECHANISM ASSY	P
15 3A	D40-0529-11	MECHANISM ASSY	UM
15 3A	D40-0529-11	MECHANISM ASSY	XE
15 3A	D40-0529-11	MECHANISM ASSY	T
320 2B	D10-0945-04	DETECTING ARM ASSY	*
321 3A	D10-0951-04	RESET ARM(B)	*
322 2B	D10-0953-04	TENSION ARM(A)	*
323 2B	D10-0954-14	TENSION ARM(B)	*
324 2B	D12-0235-03	MAIN CAM ASSY	*
325 2B	D12-0238-04	TRAVEL CAM	*
326 2B	D32-0324-14	MAIN STOPPER	*
327 3B	G01-1061-14	COILED SPRING(A)	*
328 2B	G01-1062-04	COILED SPRING(B)	*
329 2B	G01-1063-04	COILED SPRING(C)	*
330 3A	G01-1064-04	COILED SPRING(D)	*
331 3A	G01-1065-04	COILED SPRING(E)	*
332 3B	G01-1066-04	TENSION SPRING	*
333 2B	G01-1098-04	COILED SPRING(F)	*
334 3B	S46-2309-03	LEAF SWITCH	*
335 3B	S49-2003-05	SENSITIVE SWITCH(K2)	
336 3B	S50-1015-05	SENSITIVE SWITCH(K1)	
337 3B	T41-0128-05	TIMING MOTOR	*
POSITION ARM (D10-0958-04)			
401 3B	-	SUSPENTION ARM	
13 3B	D10-0958-04	POSITION ARM ASSY	*
402 3B	G01-0675-04	COILED SPRING	
403 3B	G01-1067-04	TENSION SPRING	*
404 3B	N09-0094-04	SCREW	

K: U.S.A. U: PX E: Europe M: Other area
P: Canada X: Australia T: England *: New parts

KD-50F

PACKING



*Refer to Parts List (P16)

A product of

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Unterboesch 6331 Huenenberg/ZUG Switzerland
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